DOCUMENT RESUME

ED 110 500 TM 004 773

AUTHOR Blair, Mark W.; Kershner, Keith M.
TITLE Assessment of Student Attitudes Toward Learning Environments.
PUB DATE [Apr 75]
NOTE 19p.; Paper presented at the Annual Meeting of American Educational Research Association (Washington, D.C., March 30-April 3, 1975); For related document, see TM 004 774

EDRS PRICE MF-$0.76 HC-$1.58 PLUS POSTAGE
DESCRIPTORS *Attitude Tests; *Career Education; *Classroom Environment; Comparative Analysis; High School Students; Learning Experience; Program Effectiveness; Program Evaluation; Rating Scales; Secondary Education; *Student Attitudes; Student Evaluation; Student Experience; *Test Construction; Test Validity
IDENTIFIERS Assessment of Student Attitudes Scale

ABSTRACT

The evaluators of the RBS (Research for Better Schools, Inc.) Career Education Program were confronted with the need for an instrument which would assess student attitudes toward learning environments which were not limited to traditional school settings. This study reviews the development of the Assessment of Student Attitudes Scale (ASA). The ASA is a Likert-type instrument composed of 26 items grouped to yield four subtest scores and a total score. Data indicates that the ASA is both a reliable and valid measurement tool for the assessment of secondary-school-age students' attitudes toward learning environments. (Author)

****
* Documents acquired by ERIC include many informal unpublished *
* materials not available from other sources. ERIC makes every effort *
* to obtain the best copy available. nevertheless, items of marginal *
* reproducibility are often encountered and this affects the quality *
* of the microfiche and hardcopy reproductions ERIC makes available *
* via the ERIC Document Reproduction Service (EDRS). EDRS is not *
* responsible for the quality of the original document. Reproductions *
* supplied by EDRS are the best that can be made from the original. *
****

U S DEPARTMENT OF HEALTH
EDUCATION & WELFARE
NATIONAL INSTITUTE OF
EDUCATION
THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

Assessment of Student Attitudes Toward Learning Environments*

Mark W. Blair and Keith M. Kershner
Research for Better Schools, Inc.
1700 Market Street, Suite 1700
Philadelphia, Pennsylvania 19103

ED110500

Research for Better Schools, Inc. (RBS) has developed an experience based career education program designed to provide secondary school students with cognitive skills, career experiences, and personal perspectives to aid in the selection and pursuit of adult life goals. To meet these objectives, the program utilizes self-paced learning resources, direct participation at business, agency, and other community resource sites, individualized classroom experiences, and instructional guidance activities (Maguire and Connolly, 1972). The RBS Career Education Program is currently in its third year of operation.

The objective of the present study was the development and validation of an instrument to assess student attitudes toward traditional and nontraditional learning environments. The development of the instrument was undertaken in response to a program need for feedback from student participants regarding the success of the implementation of the RBS Career Education Program. Student attitude toward the program was viewed as one index of such success. Since much of the student participation in the RBS Career Education Program occurs outside of traditional school settings, an instrument which was capable of assessing student attitudes toward a

TM 004 773

---

*Based on a paper presented at the 1975 Annual Meeting of the American Educational Research Association held in Washington, D.C., April, 1975. Mark W. Blair is an Evaluation Specialist and Keith M. Kershner is Director of Evaluation for the RBS Career Education Program.

variety of nontraditional learning environments was needed. Since comparisons were to be made with students in traditional schools the instrument would also have to be capable of assessing student attitudes toward traditional learning environments. A review of Buros (1972) and Shaw and Wright (1967) indicated that such an instrument was not available.

The development of instruments to assess attitudes has been one of the most problematic areas within the field of psychometrics. The main problems which have complicated the study of specific attitudes have been the lack of an accurate definition of the word "attitude" and the inability to consistently isolate attitudes as discrete behavioral attributes.

Several definitions of "attitude" are extant. Among them are those presented below. Sherif and Sherif (1956) viewed attitudes as relatively stable, enduring, learned and having social referents. Osgood, Suci, and Tannenbaum (1957) and Anderson and Fishbein (1965) asserted that attitudes are implicit responses which produce motives; these implicit responses are based on evaluative and affective responses. Krech, Crutchfield, and Ballachey (1962) posited that attitudes vary in quality and intensity on a continuum that ranges from positive through neutral to negative and that different attitudes are related to one another to the extent that they have the same referents. Shaw and Wright (1967) synthesized these defintions and viewed attitudes as relatively enduring systems of covert, implicit affective and evaluative reactions which are based upon and reflect learned evaluative concepts or beliefs about characteristics of social objects or classes of social objects. The definition offered by Shaw and Wright is preferred by the current authors.

Attitudinal measurement and investigation have rested primarily on a mathematical model of linearity and unidimensionality (Shaw and Wright, 1967). This mathematical model is reflected in the logical measurement techniques predominantly used in the assessment of attitude: the Thurstone, Likert, and Guttman approaches. A brief description of each is given.

The Thurstone method uses a researcher-built pool of items which is submitted to a group of objective judges whose purpose is to evaluate each item of the pool as to the degree of positive or negative feelings the statement contains (Green, 1954). Each item is evaluated on a scale of eleven points. Items are assigned scale values and then presented to the subject pool for individual responses of "agree" or "disagree" to each item. Subjects who agree to the positive statements and disagree with negative statements are scored as high positive attitude individuals and vice versa.

Likert's (1932) modification of the Thurstone technique has been found to be equally efficient and effective in obtaining similar results to the Thurstone scale (Shaw and Wright, 1967). Items from the item pool are presented directly to the subject group rather than to a team of judges. Response options are usually presented as a five-point scale with options ranging from Strongly Disagree to Strongly Agree. Weights of 1 through 5 are respectively assigned to each response. The total score is the summation of all weights.

Guttman's (1944, Guttman and Suchman, 1947) technique rests on the assumption of homogeneity of attitude within the individual. Following this assumption, this scale employs its unidimensionality in such a

way that, should an individual respond negatively to one question, all succeeding negative responses in this test can be predicted consistently. There is no attempt in the Guttman procedures to establish either equal intervals or a zero point for responses.

Likert's scaling technique was selected for the construction of scales of student attitudes toward learning environments since the developed instrument would rest neither on the ratings of judges nor on techniques which have been criticized for the lack of unequal intervals in the scales. The Likert approach has the added advantage of resultant summated scores which are an efficient means of securing information on individual and group attitudes and which require no extensive written responses. An instrument consisting of Likert scales can also be administered and scored by a small number of staff personnel.

METHOD, DATA SOURCE, AND RESULTS

A review of the development of the Assessment of Student Attitudes Toward Learning Environments Scale (ASA) is presented. Three separate versions of the ASA evolved during the developmental effort; each subsequent version was based on the analysis of the preceding version. Figure 1 highlights the development efforts.

Insert Figure 1

ASA: Version I

A pilot pool of 95 items was constructed. Each item was in the form of a hypothetical student quotation. Fifty-nine (59) of the items were presented as positive student statements and 36 were presented as negative student statements. The items were constructed to yield six subscales of the ASA. The subscales were Attitude Toward the Educational Process, Attitude Toward Program Curriculum, Attitude Toward Program Resources, Attitude Toward Program Counseling, Attitude Toward Social Environment, and Attitude Toward Learning.

Version I of the ASA was administered to 30 twelfth grade students participating in the Summer 1973 Career Education Program. To ensure sufficient variability of scores, items were presented on a 10 point response continuum ranging from Strongly Disagree to Strongly Agree. An intercorrelation matrix was constructed with subscale and total scores. Items were rejected if the item-subscale score correlation was less than .45 or the item-total score correlation was less than .30. Forty-two (42) items were deleted for failing to meet these criteria. The category Social Environment was eliminated due to the paucity of remaining items. This resulted in the deletion of two additional items. The remaining 51 items were resubmitted for analysis. The calculated reliability (alpha coefficient of .96) indicated a high degree of internal consistency for the instrument.

Teacher ratings of students on the scales were used as a validity criterion. The developers were aware of the weaknesses of the use of teacher ratings but had no other check which could be used. They also felt that the small number of students and teachers involved would assure greater dependability than is usually attributed to teacher ratings. A

second step was taken to increase the dependability of the teacher ratings; teacher ratings and student scores were dichotomized to permit a comparison between the directionality of the two. The percent agreement between directionality of teacher ratings and student scores was .88 and indicated a high degree of validity for the ASA.

ASA: Version II

The ASA: Version II contained the 51 items remaining from Version I. Examination of the items led to the deletion of one item due to wording difficulties. The revised ASA thus consisted of 50 items; 25 of these were in the form of positive student statements and 25 were in the form of of negative student statements. Order of presentation was rerandomized. The items yielded five subscales: Attitude Toward Education in General, Attitude Toward School Curriculum, Attitude Toward School Resources, Attitude Toward School Counseling, and Attitude Toward Learning.

Version II of the ASA was administered in the Fall of 1973 to 258 tenth, eleventh, and the twelfth grade students who formed the experimental and control groups of the FY 1974 RBS Career Education Program. The format for each response was a 5 point Likert scale. These responses were submitted to an item analysis. An additional 18 items were deleted due to item to subscale score or item to test score correlations less than .20 and the data were reanalyzed. Subscale to total score correlations were as follows: Attitude Toward Education, .96; Attitude Toward School Curriculum, .94; Attitude Toward School Resources, .77; Attitude Toward School Counseling, .89; and Attitude Toward Learning, .36. The split half reliability of the instrument was .86. On the basis of these results,

the Attitude Toward Learning Scale was deleted from the instrument, and the item order was rerandomized.

ASA: Version III

Version III of the ASA consisted of the 27 items retained from Version II; 13 of the items were in the form of positive student statements and 14 were in the form of negative student statements. The items yielded four subscales: Attitude Toward Education in General, Attitude Toward School Curriculum, Attitude Toward School Resources, and Attitude Toward School Counseling.

Version III of the ASA was administered in Spring 1974 to 205 experimental and control students of the RBS Career Education Program. These responses were also submitted to an item analysis. One additional item was deleted due to low item to subscale score correlation and subscale to total score correlations were calculated. Subscale to total score correlations were as follows: Attitude Toward Education, .99; Attitude Toward School Curriculum, .97; Attitude Toward School Resources, .63; and Attitude Toward School Counseling, .96. The split half reliability of the instrument was .90. Table 1 presents subscale to total correlations and the split half reliability of Version II and Version III of the ASA.

Insert Table 1

Table 2 presents item to subscale and item to overall mean correlations for Version III of the ASA. The final form of Version III is included in the reference section of this paper.

Insert Table 2

Use of Version II and Version III of the ASA on a pretest-posttest basis with an experimental and control group of the RBS Career Education Program allowed the instrument's sensitivity for assessing change in attitudes to be checked. Analysis of variance on the pretest scores indicated no differences between the groups. Posttest data for the two groups were submitted to an analysis of covariance with the pretest score the covariate. The alpha level used in the project was .10. Three of the four subscales and the overall scale indicated significant differences between the two groups' changes in attitudes toward learning environments. These results indicate that the ASA is sensitive for detecting differential changes in attitude. Table 3 presents the results of the analyses of covariance.

Insert Table 3

SUMMARY AND CONCLUSIONS

Research for Better Schools (RBS) began the implementation of an experience based career education program in September 1972. Student attitude toward this innovative educational program was viewed as one index of successful implementation. No instrument was available which

would assess student attitudes toward learning environments which extended beyond traditional school settings.

This paper has reviewed the development to date of the Assessment of Student Attitudes Toward Learning Environments (ASA). The ASA evolved through three versions to its current form of 26 student statements presented in a Likert format. The 26 items yield four subscales and an overall score. The four subtests are Attitude Toward Education in General, Attitude Toward School Curriculum, Attitude Toward School Resources, and Attitude Toward School Counseling. Each version had reliability coefficients which indicated a high degree of internal consistency for the ASA. Teacher ratings were used as a validity criterion for Version I and indicated that the instrument has high validity. Use of Version II and Version III on a pretest-posttest basis indicated that the ASA is sensitive to detecting differential group changes in attitude.

The ASA is still in a developmental form. Additional validity studies are planned and need to be conducted. Consideration should be given to the reconstruction of deleted scales and to further development of current scales.

The importance of this study is that a reliable, sensitive, and, as far is known, valid instrument has been developed for measuring student attitudes toward educational programs which extend beyond traditional school settings. While further development is indicated for the ASA, it can be used in its present form for measuring secondary school student attitudes toward educational programs in both traditional and innovative settings.

Table 1

ASA Subscale to Overall Mean Correlations

Subscale	Version II	Version III
1. Attitude Toward Education in General	.96	.99
2. Attitude Toward School Curriculum	.94	.97
3. Attitude Toward School Resources	.77	.63
4. Attitude Toward School Counseling	.89	.96
5. Attitude Toward Learning	.36	---
Split half reliability (Spearman-Brown)	.86	.90

Table 2

ASA: Version III

Item Correlations

Subscale	Item	Item to Subscale Correlation	Item to Overall Mean Correlation
1. Attitude Toward Education in General	4	.71	.61
	15	.42	.35
	16	.42	.33
	18	.58	.46
	19	.61	.56
	21	.60	.57
	26	.60	.59
2. Attitude Toward School Curriculum	1	.70	.61
	7	.54	.46
	8	.72	.50
	17	.53	.36
	20	.71	.52
3. Attitude Toward School Resources	2	.61	.51
	3	.55	.43
	6	.57	.41
	10	.54	.48
	11	.49	.54
	13	.57	.53
	14	.67	.52
	22	.67	.55
	25	.70	.62
4. Attitude Toward School Counseling	5	.66	.57
	9	.63	.34
	12	.66	.60
	23	.55	.33
	24	.73	.59

TABLE 3
Analyses of Covariance on Comparative ASA Gains in Raw Scores

I. Attitude Toward Education in General

Group	n	Pretest Mean	Posttest Mean	Adjusted Mean	Mean Difference
E2	32	435.6	354.5	353.7	–
C	56	337.2	335.7	337.8	15.1

Source	S S	df	M S	F
Between	4611.2247	1	4611.2247	0.8322
Within	470958.5300	85	5540.6887	
Total	475569.7347	86		p< .3643

II. Attitude Toward School Curriculum

Group	n	Pretest Mean	Posttest Mean	Adjusted Mean	Mean Difference
E2	32	345.0	369.4	375.6	–
C	56	372.1	351.8	345.6	30.0

Source	S S	df	M S	F
Between	17835.5841	1	17835.5841	2.9649
Within	511322.0000	85	6015.5530	
Total	529157.5841	86		p< .0888

III. Attitude Toward School Resources

Group	n	Pretest Mean	Posttest Mean	Adjusted Mean	Mean Difference
E2	32	319.8	380.3	383.9	–
C	56	337.5	324.9	321.3	62.6

Source	S S	df	M S	F
Between	78166.6852	1	78166.6852	19.8107
Within	335383.2900	85	3945.6858	
Total	413549.9732	86		p< .0001

IV. Attitude Toward School Counseling

Group	n	Pretest Mean	Posttest Mean	Adjusted Mean	Mean Difference
E2	32	282.5	340.0	342.8	–
C	56	294.8	307.5	306.1	37.7

Source	S S	df	M S	F
Between	23361.4982	1	23361.4982	3.3917
Within	710772.5400	85	8362.0299	
Total	734134.0382	86		p< .0691

V. Overall Attitude Toward Learning Environment

Group	n	Pretest Mean	Posttest Mean	Adjusted Mean	Mean Difference
E2	32	328.2	361.8	363.2	–
C	56	334.6	330.3	328.8	34.4

Source	S S	df	M S	F
Between	24086.0750	1	24086.0750	5.7679
Within	354948.2200	85	4175.8615	
Total	379034.2950	86		p< .0186

REFERENCES

Anderson, L.R., and Fishbein, M. Prediction of attitude from number, strength, and evaluative aspect of beliefs about the attitude object: a comparison of summation and congruity theories. *Journal of Personality and Social Psychology*, 1965, 2, 437-443.

Green, B.F. Attitude measurement. In G. Lindsey (Ed.), *Handbook of Social Psycholgy*. Cambridge, Mass: Addison-Wesley, 1954, 335-369.

Guttman, L. The Guttman technique for scale and intensity analysis. *Educational and Psychological Measurement*, 1947, 7, 247-280.

Guttman, L.A. Basis for scaling qualitative data. *American Sociology Review*, 1944, 9, 139-150.

Krech, D., Crutchfield, R.S., and Ballachey, E.L. *Individual in Society*. New York, New York: McGraw-Hill, 1962.

Likert, R. A technique for the measurement of attitudes. *Archives of Psychology*, 1932, 140, 1-55.

Maguire, L.M. and Connolly, J.A. Employer-based career education: the RBS model. Paper presented to the Sixth Annual Vocational Technical Teacher Education Seminar, Columbus, Ohio, October 1972.

Osgood, C.E., Suci, G.J., and Tannenbaum, P.H. *The Measurement of Meaning*. Urbana, Illinois: University of Illinois Press, 1957.

Seventh Mental Measurements Yearbook. Buros, O.K. (Ed.) Highland Park, New Jersey: Gryphon Press, 1972.

Shaw, M.E., and Wright, J.M. *Scales for the Measurement of Attitudes*. New York, New York: McGraw-Hill, 1967.

Sherif, M., and Sherif, C.W. *An Outline of Social Psychology*. (Rev. ed.). New York: Harper and Row, 1956.

NAME: _____ DATE: _____

ASSESSMENT OF STUDENT ATTITUDES

INSTRUCTIONS

In developing school programs and planning for the future it is important to know what students think about various aspects of their education. This questionnaire has been designed to give you an opportunity to express your opinions about some general educational issues based on your experience in school over the past year.

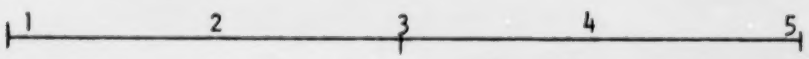
This is not a test and there are no right or wrong answers. Your honest opinions will be appreciated and helpful in improving the school program. All answers will be kept confidential. If you have any questions, raise your hand for assistance.

Please read each statement carefully and think about your experiences in school over the past year in terms of what the statement says. For each statement circle the number on the scale which shows the extent of your agreement or disagreement with the statement. If you circle a higher number (4 or 5), it means that you agree with what the statement says. If you circle a lower number (1 or 2), it means that you disagree. The more you agree, the higher the number you should circle. The more you disagree, the lower the number you should circle. If you circle a number (3) at the middle of the scale, it means that you're not sure how much you agree or disagree.

TM 004 774

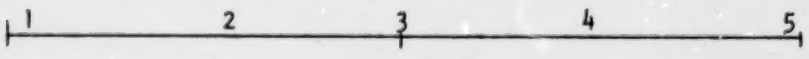
1. There is a great deal being taught at my school that is useful for me as a person.

Strongly Disagree — Strongly Agree



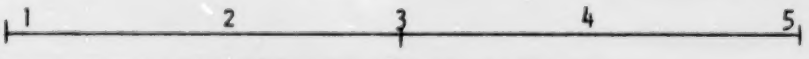
2. The teachers at my school do not seem to know enough about what they're teaching.

Strongly Disagree — Strongly Agree



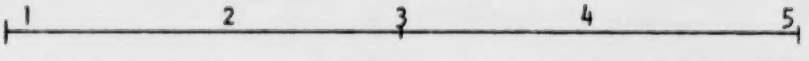
3. The facilities at my school are old and out-dated.

Strongly Disagree — Strongly Agree



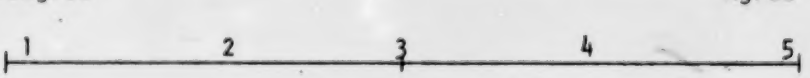
4. I've learned a lot from my school program.

Strongly Disagree — Strongly Agree



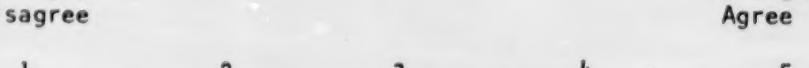
5. My school counseling program has shown me some interesting things about different careers.

Strongly Disagree — Strongly Agree



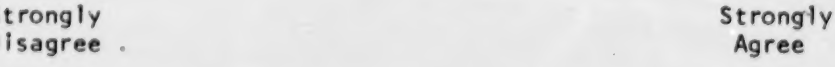
6. My school has a lot of books and equipment that I can use to help myself learn.

Strongly Disagree — Strongly Agree



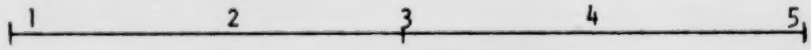
7. The experiences I get in my school learning sessions have not really helped me to learn.

Strongly Disagree — Strongly Agree



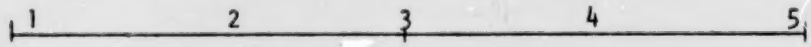
8. Most of the courses in school are useful.

Strongly Disagree — Strongly Agree



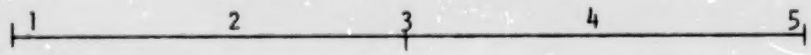
9. There are very few people and places in my school that I can go to when I have a personal problem.

Strongly Disagree — Strongly Agree



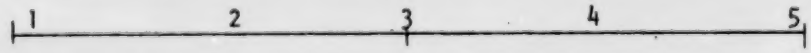
10. I'd say school was really worthwhile.

Strongly Disagree — Strongly Agree



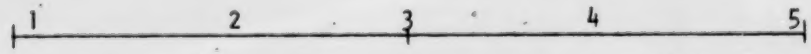
11. My school does not have very good equipment to help learning.

Strongly Disagree — Strongly Agree



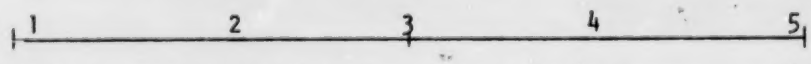
12. The counseling program at my school has been good for me.

Strongly Disagree — Strongly Agree



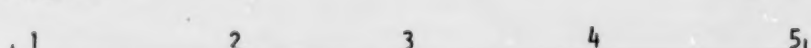
13. I used many new materials to help me in my school work.

Strongly Disagree — Strongly Agree



14. My school uses a variety of ways to help us learn - not just a classroom and teacher.

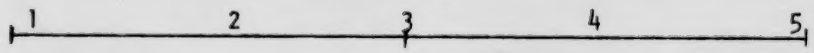
Strongly Disagree — Strongly Agree



17

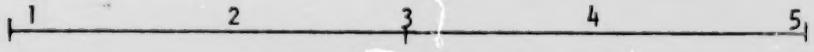
15. Some of the ideas I've gotten in school have helped me get interested in some new area.

Strongly Disagree — Strongly Agree



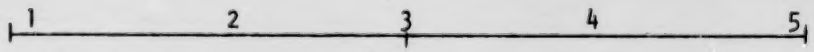
16. School has always been boring - I can hardly wait until I'm out.

Strongly Disagree — Strongly Agree



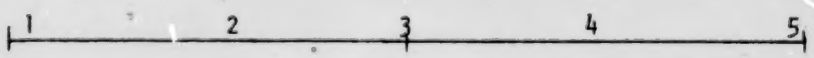
17. Education, even vocational education, doesn't help with your job when you leave school.

Strongly Disagree — Strongly Agree



18. My parents are not very excited about the education I am getting.

Strongly Disagree — Strongly Agree

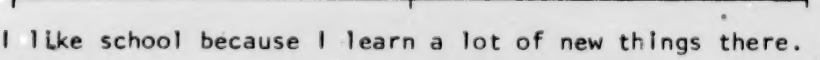


19. My school program, in general, has not been very good.

Strongly Disagree — Strongly Agree

20. Much of what I learn in school I can use in a job.

Strongly Disagree — Strongly Agree

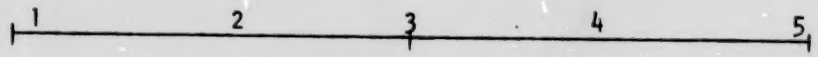


21. I like school because I learn a lot of new things there.

Strongly Disagree — Strongly Agree

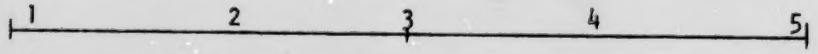
22. The people who run my school probably do not enjoy what they're doing.

Strongly Disagree — Strongly Agree



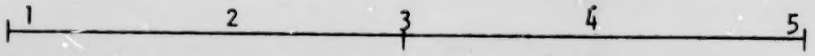
23. Not much of the advice I have gotten in my school has helped me decide on what I want for my future.

Strongly Disagree — Strongly Agree



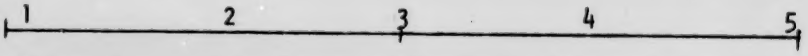
24. My school's counseling program isn't really helping me get ready for things I'll do after I graduate.

Strongly Disagree — Strongly Agree



25. The teachers I had in my school were not very interesting.

Strongly Disagree — Strongly Agree



26. School, in general, is not doing enough to prepare me for the life I'll lead after I graduate.

Strongly Disagree — Strongly Agree